

Title (en)

WATER PURIFICATION METHOD AND APPARATUS INVOLVING GENERATION OF BIPOLAR LAYER

Title (de)

WASSERREINIGUNGSVERFAHREN UND ANLAGE ZUR ERZEUGUNG EINER BIPOLAREN SCHICHT

Title (fr)

PROCÉDÉ ET APPAREIL DE PURIFICATION D'EAU IMPLIQUANT LA GÉNÉRATION D'UNE PHASE BIPOLAIRE

Publication

**EP 1943192 B1 20160914 (EN)**

Application

**EP 06794742 A 20061012**

Priority

- GB 2006003794 W 20061012
- GB 0520977 A 20051015

Abstract (en)

[origin: US2009218225A1] Water treatment method and apparatus according to which supply water containing dissolved matter is delivered to at least one treatment surface. An electric field is created in the vicinity of the treatment surface to cause a hydration layer to be established due to the bipolar nature of the water molecules. Water is then extracted from the hydration layer. Such extraction may be effected by osmosis or by removal of the element (s) from the supply water with the hydration layer water thereon, dehydration layer water subsequently being extracted from the element (s). The method has been devised to reduce energy consumption for the purpose of providing potable water from seawater.

IPC 8 full level

**B01D 61/02** (2006.01); **C02F 1/46** (2006.01); **C02F 1/469** (2006.01); **C02F 1/48** (2006.01); **C02F 103/08** (2006.01)

CPC (source: EP GB KR US)

**B01D 61/025** (2013.01 - EP GB US); **B01D 61/42** (2013.01 - GB); **B01D 63/16** (2013.01 - GB); **B01J 19/087** (2013.01 - GB);  
**C02F 1/46** (2013.01 - KR); **C02F 1/4604** (2013.01 - EP GB US); **C02F 1/469** (2013.01 - EP GB US); **C02F 1/48** (2013.01 - KR);  
**C02F 1/4693** (2013.01 - EP US); **C02F 1/4698** (2013.01 - EP US); **C02F 1/488** (2013.01 - EP US); **C02F 2103/08** (2013.01 - EP GB US);  
**Y02A 20/124** (2017.12 - EP US); **Y02A 20/131** (2017.12 - EP US)

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)

**US 2009218225 A1 20090903; US 8231786 B2 20120731;** AP 2008004475 A0 20080630; AP 2323 A 20111118; AU 2006303091 A1 20070426;  
AU 2006303091 B2 20120517; BR PI0617428 A2 20110726; BR PI0617428 B1 20160927; CA 2662518 A1 20070426; CA 2662518 C 20150526;  
CN 101331086 A 20081224; CN 101331086 B 20130612; EA 017489 B1 20121228; EA 200801096 A1 20081030; EG 25115 A 20110913;  
EP 1943192 A1 20080716; EP 1943192 B1 20160914; ES 2594367 T3 20161219; GB 0520977 D0 20051123; GB 2431154 A 20070418;  
GB 2431154 B 20110518; HK 1124036 A1 20090703; IL 190821 A0 20081103; IL 190821 A 20130731; JP 2009511258 A 20090319;  
KR 101338859 B1 20131206; KR 20080068714 A 20080723; NO 20082239 L 20080709; NZ 568306 A 20110527; UA 99811 C2 20121010;  
WO 2007045824 A1 20070426; ZA 200804219 B 20090429

DOCDB simple family (application)

**US 9029806 A 20061012;** AP 2008004475 A 20061012; AU 2006303091 A 20061012; BR PI0617428 A 20061012; CA 2662518 A 20061012;  
CN 200680047167 A 20061012; EA 200801096 A 20061012; EG 2008040613 A 20080415; EP 06794742 A 20061012; ES 06794742 T 20061012;  
GB 0520977 A 20051015; GB 2006003794 W 20061012; HK 09104064 A 20090504; IL 19082108 A 20080413; JP 2008535098 A 20061012;  
KR 20087011681 A 20061012; NO 20082239 A 20080515; NZ 56830606 A 20061012; UA A200806553 A 20061012; ZA 200804219 A 20080515